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L1 same (advantag$ or useful$)	0

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Search History

DATE: Thursday, February 14, 2002 Printable Copy Create Case

Set Name side by side	**Query**	**Hit Count**	**Set Name** result set
	DB=USPT; PLUR=YES; OP=OR		
L11	L1 same (advantag$ or useful$)	0	L11
L10	L1 same l9	0	L10
L9	photoluminescen$ same (advantag$ or useful$)	311	L9
L8	L1 same light$	6	L8
L7	L1 same layer$	6	L7
L6	L1 same (metal near0 oxid$)	0	L6
L5	L1 same nanocomposit$	0	L5
L4	L1 same dop$	0	L4
L3	L2 same (advantag$ or useful$)	0	L3
L2	L1 same hybridiz$	17	L2
L1	(nucleic or DNA or RNA or oligo$ or polynucleoti$) same photoluminescen$	47	L1

END OF SEARCH HISTORY

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     (FILE 'HOME' ENTERED AT 09:24:38 ON 14 FEB 2002)

     FILE 'MEDLINE, BIOSIS, CAPLUS, EMBASE' ENTERED AT 09:24:55 ON 14 FEB 2002
L1           115 S (NUCLEIC OR DNA OR RNA OR OLIGO OR POLYNUCLEOTIDE?)
(P)PHOTOL
L2             1 S L1 (P)HYBRIDIZ?
L3             0 S L1 (P)(TAG(W)FREE)
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Search: L5

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Search History

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Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=OR		
L5	L4 same nucleic	24	L5
L4	L1 same (advantag$ or useful$)	840	L4
L3	L2 same (advantag$ or useful$)	1	L3
L2	L1 same photoluminescen$	4	L2
L1	polystyrene same matriX	4615	L1

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L9: Entry 13 of 311 File: USPT Oct 23, 2001

DOCUMENT-IDENTIFIER: US 6307623 B1
TITLE: Device for harmonizing a laser emission path with a passive observation path

Brief Summary Paragraph Right (9):
Advantageously, the excitation beam is simply a fraction of the laser beam of the emission path that is sufficient to make the conversion. The conversion means of the device according to the invention are compact and enable great flexibility in the implementation of the harmonizing procedures. Furthermore, the very great variety of photoluminescent materials in terms of the emission spectral band and emission lifetime makes it possible to match the conversion means with the characteristics of the sensor of the passive observation path.

Detailed Description Paragraph Right (12):
According to a first example, in the case of the harmonization of a laser path emitting 1.06 .mu.m pulses of some tens of nanoseconds and a passive observation path sensitive in band 11 (about 3-5 .mu.m), it is possible to use a photoluminescent material that is a solid material doped with photoluminescent ions?, for example a rare earth such as erbium. The erbium ions indeed emit towards 2.8 .mu.m (detectable by the band 11 sensor) when they are excited at the 1.06 .mu.m wavelength. FIG. 4 thus shows a possible implementation. The collimated excitation beam FE goes through the photoluminescent material 22 which takes the form of a plate with a thickness of about 1 millimeter, and is then focused by the mirror 21 in the material 22 in a focusing spot whose diameter is about 10 microns, thus creating high power density. At the focusing point, the plate isotropically emits a light wave whose wavelength is close to 2.8 .mu.m. A part of the flux is collected by the mirror and collimated, thus forming the parallel beam FC which will be detected by the detector DEC of the imaging path. It must be noted that the flux not collected by the mirror is not inconvenient because it is highly defocused on the sensor of the imaging path and is therefore not detected. The configuration described here above has many advantages. In particular, the precision of setting the position of the photoluminescent material with respect to the mirror is easy to obtain because it is enough for the focusing point to be inside the plate. Furthermore, the device according to the invention is thus insensitive to thermal effects. This is because a modification of the temperature leads to a longitudinal shift of the focusing point which has no disturbing effect whatsoever as the focusing point remains within the material.

Detailed Description Paragraph Right (15):
In the configurations where the sensor of the observation path can detect short duration optical signals, it is advantageous to use a photoluminescent material that is a semiconductor material such as for example indium arsenide (InAs) or a more complex alloy to adapt the emission wavelength to the sensor. FIG. 5 shows the emission of photoluminescence (in arbitrary units or A.U.) as a function of the wavelength. The curve 51 thus represents an emission spectrum of the photoluminescence of InAs when it is excited by a Nd:YAG pulsed laser (with a pulse width of about 10 ns). The semiconductor may be used in massive form or in the form of a thin layer. Advantageously, as shown in FIG. 6, it may be used in the form of a patch 61 at the center of a transparent window 62 for the near infrared and infrared ranges. Indeed, since this material is highly absorbent at 1.06 .mu.m, it is preferable that the excitation beam should not go through it before being focused for example by the mirror 21.

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L9: Entry 21 of 311 File: USPT Jul 31, 2001

US-PAT-NO: 6268041
DOCUMENT-IDENTIFIER: US 6268041 B1

TITLE: Narrow size distribution silicon and germanium nanocrystals

DATE-ISSUED: July 31, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Goldstein; Avery Nathan	Oak Park	MI		

US-CL-CURRENT: 428/208; 428/206, 428/402, 428/403, 428/404, 75/255

CLAIMS:

What is claimed is:

1. Silicon nanocrystals exhibiting quantum size effects, and having a size distribution that varies by less than 20 percent of the average particle diameter of between 1 and 30 nanometers.

2. The particles of claim 1 wherein said particles are spherical in shape.

3. The particles of claim 1 wherein said particles are suspended in a solvent.

4. The particles of claim 1 further comprising a passivating agent which coats said particles.

5. The particles of claim 4 wherein said passivating agent makes the particles soluble in a liquid solvent.

6. The particles of claim 1 wherein the average particle diameter is between 1 and 8 nanometers.

7. The particles of claim 1 further comprising a dopant dispersed uniformly throughout said particles.

8. The particles of claim 1 further comprising a dopant dispersed so as to from a concentration gradient through said particles.

9. The particles of claim 7 wherein said dopant is selected from the group consisting of: lithium, beryllium, boron, nitrogen, sodium, magnesium, aluminum, phosphorus, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, gallium, arsenic, indium and antimony.

10. The particle of claim 1 wherein adjacent particles on a substrate are separated by less than five times the average particle diameter.

11. Germanium nanocrystals having quantum size effects, an average particle diameter of between 1 and 8 nm and a size distribution which varies by less than 20 percent of the average particle diameter.

12. The particles of claim 11 further comprising a passivating means which coats said particles.

13. The particles of claim 12 wherein said particles are suspended in a solvent.

14. The particles of claim 11 wherein adjacent particles on a substrate are separated by less than five times the average particle diameter.

15. The particles of claim 11 further comprising a dopant dispersed uniformly throughout said particles.

16. The particles of claim 11 further comprising a dopant dispersed so as to from a concentration gradient through said particles.

17. The particles of claim 15 wherein said dopant is selected from the group consisting of: lithium, beryllium, boron, nitrogen, sodium, magnesium, aluminum, phosphorus, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc, gallium, arsenic, indium and antimony.

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L8: Entry 3 of 6 File: USPT Oct 5, 1999

DOCUMENT-IDENTIFIER: US 5962631 A
TITLE: 2, 7-aryl-9-substituted fluorenes and 9-substituted fluorene oligomers and polymers

Brief Summary Paragraph Right (30):
The fluorenes and fluorene oligomers or polymers of the invention demonstrate strong photoluminescence in dilute solutions or in the solid state. When such materials are exposed to a light of a wavelength of about 300 to about 700 nanometers, the materials emit light of wavelengths in the region of about 400 to about 800 nanometers. More preferably, such materials absorb light of wavelengths of from about 350 to about 400 nanometers and emit light of wavelengths in the region of about 400 to about 650 nanometers. The fluorenes and fluorene oligomers or polymers of the invention are readily soluble in common organic solvents. They are processable into thin films or coatings by conventional techniques. Upon curing, such films demonstrate resistance to common organic solvents and high heat resistance. Generally, the fluorene oligomers and polymers are liquid crystalline in nature. The fluorenes and fluorene oligomers or polymers of the invention are capable of crosslinking to form solvent resistant, heat resistant films at about 100.degree. C. or more, more preferably at about 150.degree. C. or more. Preferably, such crosslinking occurs at about 350.degree. C. or less, more preferably about 300.degree. C. or less and most preferably about 250.degree. C. or less. The fluorenes and fluorene oligomers or polymers of the invention are stable at about 100.degree. C. or more and more preferably about 150.degree. C. or more. Stable, as used herein, means that such monomers or oligomers do not undergo crosslinking or polymerization reactions at or below the stated temperatures.

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L7: Entry 1 of 6 File: USPT Jan 15, 2002

DOCUMENT-IDENTIFIER: US 6338977 B1
TITLE: Vapochromic LED

Abstract Paragraph Left (1):
A sandwich device was prepared by electrodeposition of an insoluble layer of oligomerized tris(4-(2-thienyl)phenyl)amine onto conducting indium-tin oxide coated glass, spin coating the stacked platinum compound, tetrakis(p-decylphenylisocyano)platinum tetranitroplatinate, from toluene onto the oligomer layer, and then coating the platinum complex with aluminum by vapor deposition. This device showed rectification of current and gave electroluminescence. The electroluminescence spectrum (.mu..sub.max =545 nm) corresponded to the photoluminescence spectrum of the platinum complex. Exposure of the device to acetone vapor caused the electroemission to shift to 575 nm. Exposure to toluene vapor caused a return to the original spectrum. These results demonstrate a new type of sensor that reports the arrival of organic vapors with an electroluminescent signal. The sensor comprises (a) a first electrode; (b) a hole transport layer formed on the first electrode; (c) a sensing/emitting layer formed on the hole transport layer, the sensing/emitting layer comprising a material that changes color upon exposure to the analyte vapors; (d) an electron conductor layer formed on the sensing layer; and (e) a second electrode formed on the electron conductor layer. The hole transport layer emits light at a shorter wavelength than the sensing/emitting layer and at least the first electrode comprises an optically transparent material.

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L2: Entry 1 of 17 File: USPT Dec 4, 2001

DOCUMENT-IDENTIFIER: US 6325973 B1
TITLE: Methods and apparatus for improved luminescence assays

Brief Summary Paragraph Right (3):
A very substantial body of art has been developed based upon the well known binding reactions, e.g., antigen-antibody reactions, nucleic acid hybridization techniques, and protein-ligand systems. The high degree of specificity in many biochemical and biological binding systems has led to many assay methods and systems of value in research and diagnostics. Typically, the existence of an analyte of interest is indicated by the presence or absence of an observable "label" attached to one or more of the binding materials. Of particular interest are labels which can be made to luminesce through photochemical, chemical, and electrochemical means. "Photoluminescence" is the process whereby a material is induced to luminesce when it absorbs electromagnetic radiation. Fluorescence and phosphorescence are types of photoluminescence. "Chemiluminescent" processes entail the creation of luminescent species by chemical transfer of energy. "Electrochemiluminescence" entails creation of luminescent species electrochemically.

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L7: Entry 6 of 6 File: USPT Mar 12, 1991

DOCUMENT-IDENTIFIER: US 4998391 A
TITLE: Structural element

Detailed Description Paragraph Right (13):
Layer 21 contains the photoluminescent material, preferably in conjunction with reflective particles such as glass beads or chips which enhance light emission from the layer. The photoluminescent material can be selected from a wide range of such materials. Thus, suitable materials for present use include radioactive gasses, e.g. tritium, encapsulated in a polymer bead such as a polycarbonate; or metal sulphides, notably calcium, stronium or zinc sulphides or mixtures thereof. If desired, the active ingredient can be applied as a coating to a solid carrier, such as a finely particulate metal, e.g. copper. Typically, the photoluminescent material will be present as a particulate or crystalline material dispersed in a thermoplastic polymer base. The amount of photoluminescent material is typically from 50 to 500 gs, preferably 100 to 400 gs, of active ingredient per square metre of exposed surface area through which light is to be emitted. If desired, the layer 21 can contain other ingredients, notably materials which fluoresce in daylight such as organic fluorescins. Suitable polymer sheets containing the photoluminescent materials are available commercially and may be used as such in the prduction of the strips 14. However, the layer 21 may also be formed in situ by applying a paste or solution of the required ingredients and a carrier polymer, or an oligomer or monomer precursor thereof, to layer 20 or to the base of recess 13 as indicated above, and causing the polymer for the layer 21 to be formed in situ by suitable polymerisation techniques as is known in the art.

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L7: Entry 5 of 6 File: USPT Nov 3, 1998

DOCUMENT-IDENTIFIER: US 5831259 A
TITLE: Electrooptical transducer utilizing photoluminescent conjugate oligomers

Drawing Description Paragraph Right (2):
FIG. 1 A diagrammatic view of an embodiment of the electrooptical transducer according to the invention having a layer of photoluminescent conjugate oligomers between two electrodes, whereof one has at least one transparent zone for the excitation of the layer and the recovery of the photoluminescence radiation.

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L8: Entry 6 of 6 File: USPT Mar 12, 1991

DOCUMENT-IDENTIFIER: US 4998391 A
TITLE: Structural element

Detailed Description Paragraph Right (13):
Layer 21 contains the photoluminescent material, preferably in conjunction with reflective particles such as glass beads or chips which enhance light emission from the layer. The photoluminescent material can be selected from a wide range of such materials. Thus, suitable materials for present use include radioactive gasses, e.g. tritium, encapsulated in a polymer bead such as a polycarbonate; or metal sulphides, notably calcium, stronium or zinc sulphides or mixtures thereof. If desired, the active ingredient can be applied as a coating to a solid carrier, such as a finely particulate metal, e.g. copper. Typically, the photoluminescent material will be present as a particulate or crystalline material dispersed in a thermoplastic polymer base. The amount of photoluminescent material is typically from 50 to 500 gs, preferably 100 to 400 gs, of active ingredient per square metre of exposed surface area through which light is to be emitted. If desired, the layer 21 can contain other ingredients, notably materials which fluoresce in daylight such as organic fluorescins. Suitable polymer sheets containing the photoluminescent materials are available commercially and may be used as such in the prduction of the strips 14. However, the layer 21 may also be formed in situ by applying a paste or solution of the required ingredients and a carrier polymer, or an oligomer or monomer precursor thereof, to layer 20 or to the base of recess 13 as indicated above, and causing the polymer for the layer 21 to be formed in situ by suitable polymerisation techniques as is known in the art.